

Technology, Computers, and Educational Goals

By Blenda J. Wilson

American higher education enters the age of high technology with some distinct advantages. The computer industry originated within academic walls, and the most “natural” computer applications are scientific and scholarly. Professors still control the products used in the postsecondary curriculum; schools and industry, in contrast, depend upon commercial developers.

Take Internet, a system of networks created decades ago with U.S. defense dollars, that today connects more than 15 million people, at thousands of universities, government offices, and businesses in 60 countries. Internet already *is* the electronic highway about which the current administration speaks. But it is still mainly used by academic researchers and government.

Computer sophisticated faculty members have developed software to augment classroom instruction within and across the disciplines. The pace and intellectual content of collegiate coursework and the availability of computers for student use have made computers a natural for many academic fields. The *Chronicle of Higher Education*, true to its name, regularly chronicles course innovations in medieval culture, legal reasoning, listening and learning skills, jazz instruction, adult literacy—every field where faculty members are applying technology to learning.

Many colleges now use compressed video to deliver postsecon-

Blenda J. Wilson, *president of California State University, Northridge, was previously chancellor of the University of Michigan-Dearborn, and executive director of the Colorado Commission on Higher Education. She holds a Ph.D. in higher education administration from Boston College, and is a director of the Children's Television Workshop, the Commonwealth Fund, the J. Paul Getty Trust, and the Irvine Foundation.*

Media applications enable professors to add visual documentation to classroom lectures and discussions.

dary education to off-campus sites. Media applications enable professors to add visual documentation to classroom lectures and discussions. Library resources and sophisticated data bases are at the fingertips of faculty members.

Faculty members are using other technologies to change the MCAT and SAT tests to reflect new ways of looking at students and their abilities. Developments in virtual reality technologies help to expand learning opportunities for disabled persons. Higher education is committed to all kinds of technological innovation.

But a different picture emerges when outsiders view our use of technology. Outsiders see a slow pace of innovation. Lecture courses, these observers note, are still the predominant mode of instruction. Universities and colleges still rely heavily on paper communications and use antiquated, person-intensive ways to carry out “business” functions that should be most amenable to technology—purchasing, accounts receivable, and course scheduling, for example. Outsiders see unsophisticated or timid educational leaders who are not creating a vision that takes advantage of these new tools.

True, we still await a comprehensive institutional vision that includes telecommunications, administrative operations, the library, and off-campus learning. The many technological advances we now possess did not emerge from a vision. Skillful, creative, and tenacious *individuals*—faculty and staff members—produced these technologies.

But what if we had such a vision? It would not be enough. Our institutions contain an unresolved tension between creative faculty entrepreneurs, and colleagues who consider technology a mixed blessing.

Many partisans overlook the unintended consequences of technological changes. Take the automobile. It’s essential to most of us—but it has also polluted our air, stratified our communities, and propelled us intermittently into military confrontations in the Middle East. Television—a marvelous entertainment medium—altered the social interaction of families, the reading habits of our

populace, and the attention span of the young in ways that we deeply suspect affected the language styles and literacy of our students.

What about computers? There's the old adage, "To a man with a hammer, everything looks like a nail." To someone with a computer, everything look may like data instead of thought, calculation instead of judgment, ubiquitous access instead of judicious choices, speed instead of introspection, individual omniscience instead of social interdependence.

Faculty and staff members must therefore relate technology—especially the use of computers—to the educational mission of our colleges and universities. Creating a comprehensive vision for technology means identifying the aims of education. What should educated people learn and know, and know how to do?

We must educate, in my view, an increasingly diverse population to build a new democracy, to understand one another, and to collaborate with each other. We may go further. Science and technology policy, notes George Bell, former chair of the Science, Space, and Technology committee of the U.S. House of Representatives, should pursue a broader, more universal goal—the global attainment of social equity and harmonious human relationships. That means meeting the needs of all humans, particularly the poor and the politically oppressed of all nations—not just increasing the standard of living. I share the sentiments of Mr. Bell.

We often act like education is simply the acquisition of information and subject-matter knowledge. If that's your view of education, technology is a blessing. You don't need to question it. Eventually, it will do everything for us. But when we talk about what technology can *do*, we also need to talk about what technology can *undo*. Technology is neither good nor bad, one scholar puts it, nor is it neutral.

If education goes beyond subject mastery to include preparing civic-minded, good people who can work together in a more diverse world, technology will play a supplementary, though significant role. Faculty members and students must and will continue to interact in classrooms—the place of basic socialization, interaction, and complex learning.

Author's Note

This article was adapted from a keynote address entitled "Technology and Higher Education: In Search of Progress in Human Learning," presented at EDUCOM '93, Cincinnati, Ohio, October 18, 1993. A revised version of this address was given at the 1994 NEA Higher Education Conference, Albuquerque, New Mexico.